

Listing of Claims:

1. (Currently Amended) A microscopic image capture apparatus for capturing a sample image of a sample, said apparatus comprising:

5 a low-magnification dividing device for dividing an entire area of a slide glass on a stage into field size sections of a predetermined low-powered objective lens;

10 a transfer device for relatively transferring the slide glass on the stage in a direction perpendicular to an optical axis of the low-powered objective lens by relatively transferring the stage ~~in the direction perpendicular to the axis of~~ with respect to the objective lens;

15 an image information obtaining device for obtaining image information for each of the field size ~~section~~ sections each time the entire area of the slide glass is ~~sequentially~~ transferred by the transfer device by sequentially through the field size ~~section of the low-powered objective lens~~ sections of the slide glass;

20 a high-magnification dividing device for dividing the obtained image information for each field size section ~~obtained by the image information obtaining device~~ into high-magnification size sections corresponding to ~~the~~ a magnification of a predetermined high-powered objective lens;

a sample image discrimination device for checking each of
the high-magnification size sections to determine whether ~~or not~~
25 there is sample image information of the sample in the obtained
image information for each of the high-magnification size ~~section~~
~~into which the image information is divided by the~~
~~high-magnification dividing device,~~ sections, and for
discriminating ~~the~~ (i) each high-magnification size section
30 ~~having the image information containing~~ including the sample
image information as a sample image inclusion section, ~~from the~~
and (ii) each high-magnification size section ~~having the image~~
~~information containing~~ including no sample image information as a
sample image exclusion section;

35 a high-magnification image capture device for capturing ~~a~~
high-magnification image information using the predetermined
high-powered objective lens only for ~~the~~ each said high-
magnification size section discriminated as the sample image
inclusion section; and

40 an image information generation device for generating
high-magnification composite image information about ~~a~~ the sample
on the slide glass by generating ~~the~~ a high-magnification image
such that ~~the~~ a relative position between ~~the~~ (i) an area of the
high-magnification ~~size section having the~~ image corresponding to
45 the high-magnification image information obtained ~~from the image~~
~~captured~~ by the high-magnification image capture device and ~~the~~

(ii) an area of the high-magnification ~~size section~~ image
corresponding to each said high-magnification size section
discriminated as a sample image exclusion section and not
50. captured by the high-magnification image capture device, can be
correctly maintained.

2. (Currently Amended) The apparatus according to claim 1,
further comprising an area determination device for determining a
length and a width of a minimum area of the slide glass
containing ~~all the~~ each said high-magnification size ~~sections~~
5. section defined as a sample image inclusion section ~~sections by~~
~~the sample image discrimination device.~~

3. (Currently Amended) The apparatus according to claim 1,
wherein the image information generation device comprises a dummy
data assignment device for assigning dummy data predetermined to
be ~~close~~ similar to a background of the sample image as image
5. information ~~about the~~ for each said high-magnification size
section in the area of the high-magnification image not captured
by the high-magnification image capture device.

4. (Currently Amended) The apparatus according to claim 1,
further comprising an arbitrary image information generation
device for generating arbitrary image information ~~containing~~

5 having at least one of a different magnification, a different
position, ~~or and a different~~ area, ~~according to~~ based on the
high-magnification composite image information generated by the
image information generation device.

5. (Original) The apparatus according to claim 1, further
comprising a position determination device,
wherein the image information generation device obtains
image information for a field size section while horizontally
5 transferring an entire area of the capture position determined by
the position determination device for each field size section of
a low-powered objective lens by the transfer device.

Claims 6-8 (Canceled).

9. (Currently Amended) A microscopic image capture
apparatus, comprising:
a low-powered objective lens;
a high-powered objective lens;
5 a switch device for switching between the low-powered
objective lens and the high-powered objective lens;
a stage loaded with a sample storage device for storing a
sample;

an illumination device for illuminating ~~a~~ the sample ~~stored~~
10 ~~by the sample storage device;~~

an image information obtaining device for obtaining image
information about the sample by capturing a sample image
~~generated using the low-powered objective lens and the~~
~~high-powered objective lens;~~

15 a stage drive mechanism for transferring the stage on a
plane orthogonal to an optical observation axis of a microscope
on which the low-powered objective lens and the high-powered
objective lens are mounted;

a high-magnification field section device for dividing a
20 low-magnification image of the sample obtained using the
low-powered objective lens into high-magnification field sections
each corresponding to a field of the high-powered objective lens;

a sample image ~~presence/absence~~ presence check device for
checking ~~presence/absence of~~ each of the high-magnification field
25 sections to determine whether sample image information of the
sample is present ~~for each of the high-magnification field~~
~~sections divided from the low-magnification image;~~

a high-magnification image capture device for obtaining a
high-magnification image by the high-powered objective lens ~~from~~
30 only for each of the high-magnification field sections determined
to ~~have~~ contain the sample image information ~~by the check device;~~
and

an image information generation device for generating a high-magnification composite image having a same field as the low-magnification image by combining the obtained high-magnification images in positions corresponding to positions of the corresponding high-magnification field sections.

10. (Currently Amended) The apparatus according to claim 9, wherein the image information generation device comprises a dummy data assignment device for assigning dummy data predetermined to be ~~close~~ similar to a background of the sample image as image information ~~about the~~ for each of the high-magnification size ~~section~~ sections not captured by the high-magnification image capture device.

11. (Currently Amended) The apparatus according to claim 9, further comprising an arbitrary image information generation device for generating arbitrary image information ~~containing~~ having at least one of a different magnification, a different position, ~~or~~ and a different area, ~~according to~~ based on the high-magnification composite image ~~information~~ generated by the image information generation device.

12. (Currently Amended) A microscopic image capturing method for capturing a sample image of a sample, said method comprising:

dividing an entire area of a slide loaded with ~~a~~ the sample into first field size sections corresponding to a low-powered objective lens;

obtaining a low-magnification image ~~of the slide glass~~ for each of the first field size sections using the low-powered objective lens;

dividing the obtained low-magnification image for each of the first field size sections into second field size sections corresponding to a high-powered objective lens;

checking ~~presence/absence~~ each of the second field size section to determine whether sample image information is present ~~for each of the second field size sections;~~

obtaining a high-magnification image using the high-powered objective lens only for each of the second field size ~~section~~ sections determined ~~in the check to have~~ contain the sample image information; and

generating a high-magnification composite image of the sample by combining the obtained high-magnification ~~image~~ images at positions corresponding to ~~a relative position~~ positions of the corresponding second field size ~~section~~ sections.

13. (Currently Amended) The method according to claim 12, wherein dummy data similar to a background of ~~a~~ the sample image is assigned to each of the second field size ~~section~~ sections for which ~~the~~ a corresponding said high-magnification image is not obtained.

14. (Currently Amended) The method according to claim 12, wherein arbitrary image information ~~containing~~ having at least one of a different magnification, a different position, ~~or~~ and a different area is generated and displayed based on the generated high-magnification composite image.

Claims 15-22 (Canceled).

23. (New) A microscopic image capture apparatus comprising:
a low-powered objective lens;
a high-powered objective lens;
a switch device for switching between the low-powered
5 objective lens and the high-powered objective lens;
a stage loaded with a sample storage device for storing a
sample;
an illumination device for illuminating the sample;

10 a first image information obtaining device for generating a
low-magnification sample image using the low-powered objective
lens;

15 a stage drive mechanism for transferring the stage on a
plane orthogonal to an optical observation axis of a microscope
on which the low-powered objective lens and the high-powered
objective lens are mounted;

a high-magnification field section device for dividing the
low-magnification sample image into high-magnification field
sections each corresponding to a field of the high-powered
objective lens;

20 a sample image presence check device for checking each of
the high-magnification field sections to determine whether sample
image information of the sample is present;

25 a second image information obtaining device for generating a
high-magnification sample image using the high-powered objective
lens only for each of the high-magnification field sections
determined to contain the sample image; and

an image information generation device for generating a
high-magnification composite image having a same field as the
low-magnification image by combining the obtained high-
30 magnification images in positions corresponding to positions of
the corresponding high-magnification field sections.